

# WL-TR1 RF over Fiber (RFoF)

## 1 Product Overview

**WL-TR1** is a product that converts RF signals into optical signals, transmits them through optical fiber, and then converts optical signals into RF signals at the receiving end. It can transmit various signals, and is used for the long-distance transmission of RF signals.



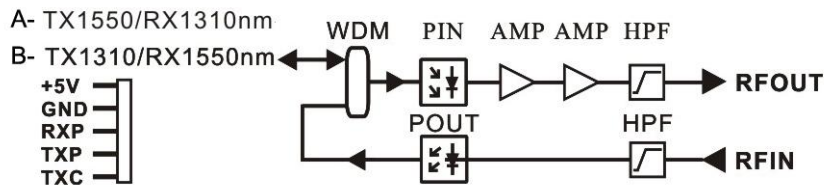
## 2 Feature

- Low consumption
- High bandwidth from 30MHz to 2.7GHz
- Excellent flatness
- Smart and compact volume

## 3 Application

- WiMAX/4G/5G
- Satellite communication
- Mobile Backhaul
- GPS signal transmission
- Data and video distribution
- Distributed antenna system
- Remote RF signal transmission

## 4 Block Diagram



## 5 Technical Parameter

Parameter	Symbol	Unit	Min	Typical	Max	Notes
Laser Optical Output Power		dBm	2	3	4	
Transmitter Operating WavelengthA/B		nm		A: 1550 B: 1310		
Receiver Operating WavelengthA/B		nm		A: 1310 B: 1550		
Optical Connector			SC/APC, FC/APC			User customization optional
High Frequency Cutoff	HFC	MHz	2700			
Low Frequency Cutoff	LFC	MHz		30		
Frequency Response		dB		±1.5	±2	Within 30~2700MHz
Input/Output impedance	Z	Ω		50		
Input/Output VSWR				1.5 : 1		Within 30~2700MHz
Spur Free Dynamic Range	SFDR	(dB/Hz) <sup>2/3</sup>	106	108		Pin=0dBm, -25~ +65 °C Test points: 700MHz, 1800MHz, 2700MHz
RF Link Gain		dB	-13	-14	-15	Within 30~2700MHz , 25°C, Pin=0dBm

RF link gain temperature fluctuation		dB			±2	-25 ~ +65 °C. Test points: 700MHz, 1800MHz, 2700MHz, Pin=0dBm
Input Third Order Intercept@1GHz	IIP3	dBm	30	35		
Isolation		dB	50	60		
Group Delay Over		ns		1		4MHz (30-2700MHz)
RF Input into Tx		dBm		0		
Optical Input into Rx		dBm	-4	0	2	
Two Tone intermodulation Frequency		MHz		700 1800 2700		Test at 1MHz interval between two tones
Bandwidth Transmission		MHz	100@2.6GHz 20@1.8GHz 30@700MHz			
RF Connector			SMA Female			
Supply Voltage	Vcc	V	4.8	5.0	5.2	
Supply Current	Icc	mA		220	300	
Power Consumption		W		1.5		
Operating Temperature	T	°C	-25		65	
Dimension		mm	99×86×24			

## 6 Function Description



1	Optical COM port	
2	RF output port	SMA Female
3	RF input port	SMA Female
4	Power indicator	
5	Power port	